



NATIONAL ASSOCIATION OF  
STATE DIRECTORS OF  
PUPIL TRANSPORTATION SERVICES

## **Information Paper**

### **Air Quality: Suggested Operational Practices for School Buses**

#### **Background**

Over the past few years, the media and politicians have extensively discussed the contribution of diesel-powered school bus exhaust emissions to air pollution and the potential health effects on students riding in school buses or standing in school bus loading zones. A variety of organizations have conducted a number of studies on diesel-powered school bus emissions. Some of the studies were conducted using state-of-the-art data collection techniques, while others used questionable analytical approaches. Some were conducted by advocacy groups, while others were conducted by governmental entities. Not surprising, the conclusions of these studies vary.

Without debating the efficacy of each study, clearly emissions from all types of motor vehicles, as well as stationary sources, can have a negative effect on the health of the American public. The air we all breathe can and should be as clean as possible. Clean air is especially important for children since they are more susceptible to potential negative health effects from air pollution.

Diesel-powered school buses are only a small percentage of the diesel-powered motor vehicles on the road (approximately 450,000 school buses versus an estimated 7 million heavy trucks and buses). And, diesel-powered school buses generally operate in the mornings and afternoons on school days, compared to transit buses, motorcoaches, tractor-semi trailers and other heavy duty trucks many of which operate 24-hours per day. Nevertheless, the school bus industry has been at the forefront of environmental improvements and is committed to a continuing involvement and leadership role in improving engine emissions, particularly for the students served by school bus transportation.

## **Discussion**

Since cleaner air is a national goal everyone supports, it is important that every industry do whatever it can to improve the quality of the air we all breathe. Some improvements involve the expenditure of funds, while other improvements can be implemented with little or no cost.

For example, the benefits from the accelerated replacement of older school buses with new school buses equipped with the latest emission controls and engine technologies can be realized only if additional funds are made available to school districts. Likewise, retrofitting newer school buses with the latest emission control technologies can help improve air quality, but at a monetary cost.

Since pupil transportation has been, and continues to be, under-funded in most states and local school districts, the expectation for accelerated school bus replacement programs or retrofit programs to occur in large numbers *without* significant increases in funding for such programs is unreasonable. While the pupil transportation industry and others work to develop new and increased sources of funds, states and local districts can take a number of actions that will contribute to improvements in air quality, especially for students. And these actions cost little or nothing to implement. In one instance, there may be even a cost savings to the state or local school district.

## **Policy Considerations**

### **Engine Idling Programs**

Extended idling of any motor vehicle produces additional exhaust emissions that contribute to air quality. Additionally, excessive school bus engine idling where school children congregate, for example in school bus loading zones at schools, can expose students to unnecessary levels of exhaust emissions.

Many states have, or are in the process of developing, programs to eliminate unnecessary engine idling. In addition to reducing exhaust emissions, these reduced engine idling programs actually save fuel-- which translates to an overall savings in fuel expenditures.

The State Directors Association believes all states should develop and implement engine idling requirements for all types of commercial motor vehicles. These programs should not be applicable only to school buses, since school buses make up a very small percentage of all commercial motor vehicles. No single engine idling program can work equally well in all states. If for no other reason, the varying climatic conditions among the states would suggest that each state must develop its own engine idling programs to suit its needs.

**Driving in Traffic**

Several studies clearly show that as much as 50 percent of the exhaust emissions that end up inside a motor vehicle is directly attributable to the exhaust from the vehicle(s) immediately in front. This makes perfect sense.

The State Directors Association believes school bus drivers should be informed of the effects of following other vehicles, particularly large commercial motor vehicles, including other school buses, too closely since the exhaust emissions from those other large vehicles can contribute significantly to the air quality inside the school bus.

**School Bus Loading Zone Locations**

A common scene at a school location is a number of school buses arriving in the morning at the same time to discharge students, or waiting in the afternoon to pick up students for the ride home. If all of these buses are idling, the air pollution in the immediate vicinity can become elevated. Students either disembarking in the morning or waiting to board the bus in the afternoon could be exposed to higher levels of pollutants. Additionally, if the school bus loading zone is in close proximity to the school building or its heating/air conditioning equipment, the quality of the air inside the school could be affected.

The State Directors Association believes school districts should evaluate the school bus loading zone locations at schools and the policies with respect to school bus engine idling in those loading zones.

**School Bus Utilization**

Every school bus fleet in the Nation has buses of various ages. Because of increased regulatory requirements and technology improvements over the years, newer school buses in the fleet likely produce fewer emissions than the older buses in the fleet.

Accordingly, the State Directors Association believes school districts should attempt to use newer school buses on the longer school bus routes and on school activity trips.

### **School Bus Maintenance Programs**

Like any motor vehicle, if quality preventive and corrective engine and vehicle maintenance programs are conducted, school buses of any age will run cleaner. The State Directors Association believes school districts should continue the outstanding inspection and maintenance programs that have been established over the years, with a renewed attention to factors impacting emissions.

### **Final Note**

The school bus industry is made up of thousands of individuals who are dedicated to providing the safest and cleanest form of transportation in America. Most of these individuals are parents, and their own children or grandchildren are on the school buses they design, manufacture, or operate. Anytime there is something that will make those buses even safer or cleaner for their own children, these individuals are supportive and involved.